

**First principles prediction of the solar cell efficiency of chalcopyrite materials  $\text{AgMX}_2$  (M=In, Al; X=S, Se, Te)**

Dongho-Nguimdo, G. M., Igumbor, E., Zambou, S. & Joubert, D. P., 1 Dec 2019, In : Computational Condensed Matter. 21, e00391.

Research output: Contribution to journal > Article > Scientific > peer-review

**Bursty magnetic friction between polycrystalline thin films with domain walls**

Rissanen, I. & Laurson, L., 4 Oct 2019, In : Physical Review B. 100, 14, 9 p., 144408.

Research output: Contribution to journal > Article > Scientific > peer-review

**Realization of Free-Space Long-Distance Self-Healing Bessel Beams**

Vetter, C., Steinkopf, R., Bergner, K., Ornigotti, M., Nolte, S., Gross, H. & Szameit, A., 1 Oct 2019, In : Laser and Photonics Reviews. 13, 10, 1900103.

Research output: Contribution to journal > Article > Scientific > peer-review

**Analytical computation of the demagnetizing energy of thin-film domain walls**

Skaugen, A., Murray, P. & Laurson, L., 25 Sep 2019, In : Physical Review B. 100, 9, 094440.

Research output: Contribution to journal > Article > Scientific > peer-review

**Observation of PT-symmetric quantum interference**

Klauck, F., Teuber, L., Ornigotti, M., Heinrich, M., Scheel, S. & Szameit, A., 16 Sep 2019, In : Nature Photonics.

Research output: Contribution to journal > Article > Scientific > peer-review

**Magnetic non-contact friction from domain wall dynamics actuated by oscillatory mechanical motion**

Rissanen, I. & Laurson, L., 13 Aug 2019, In : Journal of Physics D: Applied Physics. 52, 44, 445002.

Research output: Contribution to journal > Article > Scientific > peer-review

**3-D mechanical modeling of 20 T HTS clover leaf end coils - Good practices and lessons learned**

Murtomäki, J. S., Van Nugteren, J., Stenvall, A., Kirby, G. & Rossi, L., 1 Aug 2019, In : IEEE Transactions on Applied Superconductivity. 29, 5, 8642381.

Research output: Contribution to journal > Article > Scientific > peer-review

**AlGaAs/AlGaInP VECSELs with Direct Emission at 740-770 nm**

Nechay, K., Kahle, H., Penttinen, J-P., Rajala, P., Tukiainen, A., Ranta, S. & Guina, M., 1 Aug 2019, In : IEEE Photonics Technology Letters. 31, 15, p. 1245-1248 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Exploration of Two Layer  $\text{Nb}_3\text{Sn}$  Designs of the Future Circular Collider Main Quadrupoles**

Lorin, C., Fleiter, J., Salmi, T. & Schoerling, D., 1 Aug 2019, In : IEEE Transactions on Applied Superconductivity. 29, 5, 4001005.

Research output: Contribution to journal > Article > Scientific > peer-review

**Highly efficient charge separation in model Z-scheme  $\text{TiO}_2/\text{TiSi}_2/\text{Si}$  photoanode by micropatterned titanium silicide interlayer**

Hannula, M., Ali-Löytty, H., Lahtonen, K., Saari, J., Tukiainen, A. & Valden, M., 1 Aug 2019, In : Acta Materialia. 174, p. 237-245 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Temporal ghost imaging using wavelength conversion and two-color detection**

Wu, H., Ryczkowski, P., Friberg, A. T., Dudley, J. M. & Genty, G., 20 Jul 2019, In : Optica. 6, 7, p. 902-906 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**0.6V threshold voltage thin film transistors with solution processable indium oxide ( $\text{In}_2\text{O}_3$ ) Channel and Anodized High-k  $\text{Al}_2\text{O}_3$  Dielectric**

Bhalerao, S. R., Lupo, D., Zangiabadi, A., Kymissis, I., Leppäniemi, J., Alastalo, A. & Berger, P. R., 1 Jul 2019, In : IEEE Electron Device Letters. 40, 7, p. 1112-1115 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Investigating human skin using deep learning enhanced multiphoton microscopy**

Huttunen, M. J., Hristu, R., Dumitru, A., Costache, M. & Stanciu, S. G., 1 Jul 2019, *21st International Conference on Transparent Optical Networks, ICTON 2019*. IEEE, (International Conference on Transparent Optical Networks).  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Nanoparticles in optical waveguides: A toolbox to promote lasers, amplifiers and sensors**

Blanc, W., Vermillac, M., Petit, L., Lukowiak, A., Lu, Z., Mady, F., Benabdesselam, M., Chaussedent, S., Mehdi, A. & Ferrari, M., 1 Jul 2019, *21st International Conference on Transparent Optical Networks, ICTON 2019*. IEEE, (International Conference on Transparent Optical Networks).  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Persistent luminescent glasses prepared using the direct doping method**

Aryal, U., Ojha, N., Trautvetter, T., Lastusaari, M., Ueda, J., Mueller, R., Veber, A. & Petit, L., 1 Jul 2019, *21st International Conference on Transparent Optical Networks, ICTON 2019*. IEEE, (International Conference on Transparent Optical Networks).  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Real-time measurements of ultrafast instabilities in nonlinear fiber optics: Recent advances**

Dudley, J. M., Ryzkowski, P., Närhi, M., Billet, C., Merolla, J. M., Lapre, C., Meng, F., Lacourt, P. A. & Genty, G., 1 Jul 2019, *21st International Conference on Transparent Optical Networks, ICTON 2019*. IEEE, (International Conference on Transparent Optical Networks).  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Towards efficient nonlinear plasmonic metasurfaces**

Huttunen, M. J., Stolt, T., Reshef, O., Kiviniemi, A., Czaplicki, R., Zang, X., Vartiainen, I., Butet, J., Kuittinen, M., Martin, O. J. F., Dolgaleva, K., Boyd, R. W. & Kauranen, M., 1 Jul 2019, *21st International Conference on Transparent Optical Networks, ICTON 2019*. IEEE, (International Conference on Transparent Optical Networks).  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Photovoltaic properties of low-bandgap (0.7–0.9eV) lattice-matched GaInNAsSb solar junctions grown by molecular beam epitaxy on GaAs**

Isoaho, R., Aho, A., Tukiainen, A., Aho, T., Raappana, M., Salminen, T., Reuna, J. & Guina, M., 15 Jun 2019, In : *Solar Energy Materials and Solar Cells*. 195, p. 198-203 6 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

#### **Energy density-method: An approach for a quick estimation of quench temperatures in high-field accelerator magnets**

Salmi, T. & Schoerling, D., Jun 2019, In : *IEEE Transactions on Applied Superconductivity*. 29, 4  
Research output: Contribution to journal > Article > Scientific > peer-review

#### **Multistep Bloch-line-mediated Walker breakdown in ferromagnetic strips**

Hütner, J., Herranen, T. & Laurson, L., 24 May 2019, In : *Physical Review B*. 99, 17, 174427.  
Research output: Contribution to journal > Article > Scientific > peer-review

#### **Artificial intelligence yesterday, today and tomorrow**

Jaakkola, H., Henno, J., Mäkelä, J. & Thalheim, B., 1 May 2019, *2019 42nd International Convention on Information and Communication Technology, Electronics and Microelectronics, MIPRO 2019 - Proceedings*. Skala, K., Car, Z., Pale, P., Huljenic, D., Janjic, M., Koracic, M., Sruk, V., Ribaric, S., Grbac, T. G., Butkovic, Z., Cicin-Sain, M., Skvorc, D., Mauher, M., Babic, S., Gros, S., Vrdoljak, B. & Tijan, E. (eds.). IEEE, p. 860-867 8 p.  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Double-side pumped membrane external-cavity surface-emitting laser (MECSEL) with increased efficiency emitting > 3 W in the 780 nm region**

Kahle, H., Phung, H-M., Penttinen, J-P., Rajala, P., Tukiainen, A., Ranta, S. & Guina, M., 1 May 2019, *2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings*. IEEE  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Frequency Comb Generation in a Continuous-Wave Pumped Second-Order Nonlinear Waveguide Resonator**

Abdallah, Z., Stefszky, M., Ulvila, V., Silberhorn, C. & Vainio, M., 1 May 2019, *2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings*. IEEE

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **GaInAsSb/AlGa(In)AsSb type I quantum wells emitting in 3 $\mu$ m range for application in superluminescent diodes**

Kurka, M., Dyksik, M., Suomalainen, S., Koivusalo, E., Guina, M. & Motyka, M., 1 May 2019, In : *Optical Materials*. 91, p. 274-278 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **High-Q resonance train in a plasmonic metasurface**

Saad-Bin-Alam, M., Reshef, O., Huttunen, M. J., Carlow, G., Sullivan, B., Menard, J. M., Dolgaleva, K. & Boyd, R. W., 1 May 2019, *2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings*. IEEE

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Intelligent data service for farmers**

Linna, P., Narra, N. & Grönman, J., 1 May 2019, *2019 42nd International Convention on Information and Communication Technology, Electronics and Microelectronics, MIPRO 2019 - Proceedings*. Skala, K., Car, Z., Pale, P., Huljenic, D., Janjic, M., Koracic, M., Sruk, V., Ribaric, S., Grbac, T. G., Butkovic, Z., Cicin-Sain, M., Skvorc, D., Mauher, M., Babic, S., Gros, S., Vrdoljak, B. & Tijan, E. (eds.). IEEE, p. 1072-1075 4 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Optical Frequency Comb Photoacoustic Spectroscopy**

Sadiek, I., Mikkonen, T., Vainio, M., Toivonen, J. & Foltynowicz, A., 1 May 2019, *2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings*. IEEE

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Screen printed temporary tattoos for skin-mounted electronics**

Tuominen, S. & Mäntysalo, M., 1 May 2019, *IEEE 69th Electronic Components and Technology Conference, ECTC 2019*. IEEE, p. 1252-1257 6 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Teaching for virtual work**

Henno, J., Jaakkola, H. & Mäkelä, J., 1 May 2019, *2019 42nd International Convention on Information and Communication Technology, Electronics and Microelectronics, MIPRO 2019 - Proceedings*. Skala, K., Car, Z., Pale, P., Huljenic, D., Janjic, M., Koracic, M., Sruk, V., Ribaric, S., Grbac, T. G., Butkovic, Z., Cicin-Sain, M., Skvorc, D., Mauher, M., Babic, S., Gros, S., Vrdoljak, B. & Tijan, E. (eds.). IEEE, p. 818-826 9 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Engineering of Chern insulators and circuits of topological edge states**

Minarelli, E. L., Poyhönen, K., Van Dalum, G. A. R., Ojanen, T. & Fritz, L., 10 Apr 2019, In : *Physical Review B*. 99, 16, 165413.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Advancements in Solution Processable Devices using Metal Oxides For Printed Internet-of-Things Objects**

Berger, P. R., Li, M., Mattei, R. M., Niang, M. A., Talisa, N., Tripepi, M., Harris, B., Bhalerao, S. R., Chowdhury, E. A., Winter, C. H. & Lupo, D., 1 Mar 2019, *2019 Electron Devices Technology and Manufacturing Conference, EDTM 2019*. IEEE, p. 160-162 3 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Transverse deformation of a lamellar TiAl alloy at high temperature by in situ microcompression**

Edwards, T. E. J., Di Gioacchino, F., Goodfellow, A. J., Mohanty, G., Wehrs, J., Michler, J. & Clegg, W. J., 1 Mar 2019, In : *Acta Materialia*. 166, p. 85-99 15 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Mining tailings as raw materials for reaction-sintered aluminosilicate ceramics: Effect of mineralogical composition on microstructure and properties**

Karhu, M., Lagerbom, J., Solismaa, S., Honkanen, M., Ismailov, A., Räsänen, M. L., Huttunen-Saarivirta, E., Levänen, E. & Kivikytö-Reponen, P., Mar 2019, In : *Ceramics International*. 45, 4, p. 4840-4848

Research output: Contribution to journal > Article > Scientific > peer-review

**Ultrahigh-pressure form of Si O<sub>2</sub> glass with dense pyrite-type crystalline homology**

Murakami, M., Kohara, S., Kitamura, N., Akola, J., Inoue, H., Hirata, A., Hiraoka, Y., Onodera, Y., Obayashi, I., Kalikka, J., Hirao, N., Musso, T., Foster, A. S., Idemoto, Y., Sakata, O. & Ohishi, Y., 29 Jan 2019, In : *Physical Review B*. 99, 4, 045153.

Research output: Contribution to journal > Article > Scientific > peer-review

**Deformation of lamellar  $\gamma$ -TiAl below the general yield stress**

Edwards, T. E. J., Di Gioacchino, F., Goodfellow, A. J., Mohanty, G., Wehrs, J., Michler, J. & Clegg, W. J., 15 Jan 2019, In : *Acta Materialia*. 163, p. 122-139 18 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**A Fast Quench Protection System for High-Temperature Superconducting Magnets**

van Nugteren, J., Murtomäki, J., Ruuskanen, J., Kirby, G., Hagen, P., DeRijk, G., Ten Kate, H., Bottura, L. & Rossi, L., Jan 2019, In : *IEEE Transactions on Applied Superconductivity*. 29, 1, 4700108.

Research output: Contribution to journal > Article > Scientific > peer-review

**Phosphate glasses with blue persistent luminescence prepared using the direct doping method**

Ojha, N., Tuomisto, M., Lastusaari, M. & Petit, L., Jan 2019, In : *Optical Materials*. 87, p. 151-156

Research output: Contribution to journal > Article > Scientific > peer-review

**1.3 $\mu$ m U-bend traveling wave SOA devices for high efficiency coupling to silicon photonics**

Viherialä, J., Tuorila, H., Zia, N., Cherchi, M., Aalto, T. & Guina, M., 2019, *Silicon Photonics XIV*. Reed, G. T. & Knights, A. P. (eds.). SPIE, IEEE, 109230E. (Proceedings of SPIE - The International Society for Optical Engineering; vol. 10923).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**1.55- $\mu$ m wavelength wafer-fused OP-VECSELs in flip-chip configuration**

Mereuta, A., Nechay, K., Caliman, A., Suruceanu, G., Gallo, P., Guina, M. & Kapon, E., 2019, *Vertical External Cavity Surface Emitting Lasers (VECSELs) IX*. Keller, U. (ed.). SPIE, IEEE, 1090103. (Proceedings of SPIE - The International Society for Optical Engineering; vol. 10901).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**405-nm pumped Ce<sup>3+</sup>-doped silica fiber for broadband fluorescence from cyan to red**

Yadav, A., Chichkov, N. B., Gumenyuk, R., Zherebtsov, E., Melkumov, M. A., Yashkov, M. V., Dianov, E. M. & Rafailov, E. U., 2019, *Optical Components and Materials XVI*. Digonnet, M. J. F. & Jiang, S. (eds.). SPIE, IEEE, 1091406. (Proceedings of SPIE - The International Society for Optical Engineering; vol. 10914).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**Benchmarking of several disparity estimation algorithms for light field processing**

Zakeri, F. S., Bätz, M., Jaschke, T., Keinert, J. & Chuchvara, A., 2019, *Fourteenth International Conference on Quality Control by Artificial Vision*. Bazeille, S., Verrier, N. & Cudel, C. (eds.). SPIE, IEEE, 111721C. (Proceedings of SPIE - The International Society for Optical Engineering; vol. 11172).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**MECSELs with direct emission in the 760 nm to 810 nm spectral range: A single- and double-side pumping comparison and high-power continuous-wave operation**

Kahle, H., Penttinen, J. P., Phung, H. M., Rajala, P., Tukiainen, A., Ranta, S. & Guina, M., 2019, *Vertical External Cavity Surface Emitting Lasers (VECSELs) IX*. Keller, U. (ed.). SPIE, IEEE, 109010D. (Proceedings of SPIE - The International Society for Optical Engineering; vol. 10901).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Observation of local electroluminescent cooling and identifying the remaining challenges**

Radevici, I., Sadi, T., Tripurari, T., Tiira, J., Ranta, S., Tukiainen, A., Guina, M. & Oksanen, J., 2019, *Photonic Heat Engines: Science and Applications*. Seletskiy, D. V., Epstein, R. I. & Sheik-Bahae, M. (eds.). SPIE, IEEE, 109360A. (Proceedings of SPIE - The International Society for Optical Engineering; vol. 10936).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **On the limit of superhydrophobicity: Defining the minimum amount of TiO<sub>2</sub> nanoparticle coating**

Haapanen, J., Aromaa, M., Teisala, H., Juuti, P., Tuominen, M., Sillanpää, M., Stepien, M., Saarinen, J. J., Toivakka, M., Kuusipalo, J. & Mäkelä, J. M., 2019, In : *Materials Research Express*. 6, 3, 035004.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Single exposure lensless subpixel phase imaging**

Kocsis, P., Shevkunov, I., Katkovnik, V. & Egiuzarian, K., 2019, *Digital Optical Technologies 2019*. Kress, B. C. & Schelkens, P. (eds.). SPIE, IEEE, 9 p. (Proceedings of SPIE - The International Society for Optical Engineering; vol. 11062).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Reversible photodoping of TiO<sub>2</sub> nanoparticles**

Joost, U., Sutka, A., Oja, M., Smits, K., Doebelin, N., Loot, A., Järvekülg, M., Hirsimäki, M., Valden, M. & Nommiste, E., 26 Dec 2018, In : *Chemistry of Materials*. 30, 24, p. 8968-8974

Research output: Contribution to journal > Article > Scientific > peer-review

### **ICED - Inductively Coupled Energy Dissipater for Future High Field Accelerator Magnets**

Murtomäki, J. S., van Nugteren, J., Kirby, G., DeRijk, G., Rossi, L. & Stenvall, A., Dec 2018, In : *IEEE Transactions on Applied Superconductivity*. 28, 8, 4009015.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Cascaded crystalline raman lasers for extended wavelength coverage: Continuous-wave, third-stokes operation**

Casula, R., Penttinen, J.-P., Guina, M., Kemp, A. J. & Hastie, J. E., 20 Nov 2018, In : *Optica*. 5, 11, p. 1406-1413 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Optical properties of GaAs<sub>1-x</sub>Bi<sub>x</sub>/GaAs quantum well structures grown by molecular beam epitaxy on (100) and (311)B GaAs substrates**

Gunes, M., Ukelge, M. O., Donmez, O., Erol, A., Gumus, C., Alghamdi, H., Galeti, H. V. A., Henini, M., Schmidbauer, M., Hilska, J., Puustinen, J. & Guina, M., 13 Nov 2018, In : *Semiconductor Science and Technology*. 33, 12, 124015.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Tunable Reflection Type Plasmon Induced Transparency with Graphene**

Habib, M., Ozbay, E. & Caglayan, H., 13 Nov 2018, *2018 12th International Congress on Artificial Materials for Novel Wave Phenomena, METAMATERIALS 2018*. IEEE, p. 170-172 3 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Sensitivity Analysis of Inverse Thermal Modeling to Determine Power Losses in Electrical Machines**

Nair, D. G., Rasilo, P. & Arkkio, A., Nov 2018, In : *IEEE Transactions on Magnetics*. 54, 11, 8109405.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Demonstration of optical nonlinearity in InGaAsP/InP passive waveguides**

Saeidi, S., Rasekh, P., Awan, K. M., Tüngen, A., Huttunen, M. J. & Dolgaleva, K., 1 Oct 2018, In : *Optical Materials*. 84, p. 524-530 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Processing and Characterization of Bioactive Borosilicate Glasses and Scaffolds with Persistent Luminescence**

Del Cerro, P. R., Saarinen, M., Massera, J., Norrbo, I., Lastusaari, M. & Petit, L., 26 Sep 2018, *2018 20th International Conference on Transparent Optical Networks, ICTON 2018*. IEEE COMPUTER SOCIETY PRESS, Vol. 2018-July. 5 p. 8473916. (Conference proceedings : International Conference on Transparent Optical Networks).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Dilute nitride triple junction solar cells for space applications: Progress towards highest AMO efficiency**

Aho, A., Isoaho, R., Tukiainen, A., Gori, G., Campesato, R. & Guina, M., Sep 2018, In : Progress in Photovoltaics: Research and Applications. 26, 19, p. 740-744 5 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Fluorescence bandwidth of 280nm from broadband Ce<sup>3+</sup>-doped silica fiber pumped with blue laser diode**

Yadav, A., Chichkov, N. B., Gumenyuk, R., Zherebtsov, E., Melkumov, M. A., Yashkov, M. V., Dianov, E. M. & Rafailov, E. U., 13 Aug 2018, *2018 International Conference Laser Optics (ICLO)*. IEEE, p. 133-133 1 p. 8435861

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Near-threshold high spin amplification in a 1300 nm GaInNAs spin laser**

Cemlyn, B., Adams, M., Harbord, E., Li, N., Henning, I. D., Oulton, R., Korpijärvi, V. M. & Guina, M., 1 Aug 2018, In : Semiconductor Science and Technology. 33, 9, 094005.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Geometry Analysis in Screen-Printed Stretchable Interconnects**

Mosallaei, M., Jokinen, J., Honkanen, M., Iso-Ketola, P., Vippola, M., Vanhala, J., Kanerva, M. & Mantysalo, M., Aug 2018, In : IEEE Transactions on Components, Packaging and Manufacturing Technology. 8, 8, p. 1344-1352

Research output: Contribution to journal > Article > Scientific > peer-review

### **Processing of printed silver patterns on an ETFE substrate**

Mikkonen, R., Lahokallio, S., Frisk, L. & Mäntysalo, M., 31 Jul 2018, *Proceedings - 2018 IMAPS Nordic Conference on Microelectronics Packaging, NORDPAC 2018*. IEEE, p. 1-7 7 p. 8423860

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Exciton localization and structural disorder of GaAs<sub>1-x</sub>Bi<sub>x</sub>/GaAs quantum wells grown by molecular beam epitaxy on (311)B GaAs substrates**

Prando, G. A., Orsi Gordo, V., Puustinen, J., Hilska, J., Alghamdi, H. M., Som, G., Gunes, M., Akyol, M., Souto, S., Rodrigues, A. D., Galeti, H. V. A., Henini, M., Gobato, Y. G. & Guina, M., 17 Jul 2018, In : Semiconductor Science and Technology. 33, 8, 084002.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Fluid flow simulations meet high-speed video: Computer vision comparison of droplet dynamics**

Kulju, S., Riegger, L., Koltay, P., Mattila, K. & Hyväluoma, J., 15 Jul 2018, In : Journal of Colloid and Interface Science. 522, p. 48-56 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Mechanical stress analysis during a quench in CLIQ protected 16 T dipole magnets designed for the future circular collider**

Zhao, J., Prioli, M., Stenvall, A., Salmi, T., Gao, Y., Caiffi, B., Lorin, C., Marinozzi, V., Farinon, S. & Sorbi, M., 15 Jul 2018, In : Physica C: Superconductivity and its Applications. 550, p. 27-34 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Evaluation of screen printed silver trace performance and long-term reliability against environmental stress on a low surface energy substrate**

Mikkonen, R. & Mäntysalo, M., 1 Jul 2018, In : Microelectronics Reliability. 86, p. 54-65 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Fabrication and reliability evaluation of passive UHF RFID T-shirts**

Chen, X., He, H., Ukkonen, L., Virkki, J., Lu, Y. & Lam, H., 8 Jun 2018, *2018 IEEE International Workshop on Antenna Technology, iWAT2018 - Proceedings*. IEEE, p. 1-4 4 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Progress on HL-LHC Nb<sub>3</sub>Sn Magnets**

Todesco, E., Annarella, M., Ambrosio, G., Apollinari, G., Ballarino, A., Bajas, H., Bajko, M., Bordini, B., Bossert, R., Bottura, L., Cavanna, E., Cheng, D., Chlachidze, G., De Rijk, G., Dimarco, J., Ferracin, P., Fleiter, J., Guinchard, M., Hafalia, A., Holik, E., Izquierdo Bermudez, S., Lackner, F., Marchevsky, M., Loeffler, C., Nobrega, A., Perez, J. C.,

Prestemon, S., Ravaioli, E., Rossi, L., Sabbi, G., Salmi, T., Savary, F., Schmalzle, J., Stoynev, S., Strauss, T., Tartaglia, M., Vallone, G., Velev, G., Wanderer, P., Wang, X., Willering, G. & Yu, M., 1 Jun 2018, In : IEEE Transactions on Applied Superconductivity. 28, 4, 4008809.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **The effect of carbon and nickel additions on the precursor synthesis of Cr<sub>3</sub>C<sub>2</sub>-Ni nanopowder**

Kaunisto, K., Kotilainen, M., Karhu, M., Lagerbom, J., Vuorinen, T., Honkanen, M., Vippola, M. & Turunen, E., 1 Jun 2018, In : Ceramics International. 44, 8, p. 9338-9346

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Influence of the phosphate glass melt on the corrosion of functional particles occurring during the preparation of glass-ceramics**

Ojha, N., Laihininen, T., Salminen, T., Lastusaari, M. & Petit, L., Jun 2018, In : Ceramics International. 44, 10, p. 11807-11811

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Investigation of REBCO Roebel Cable Irreversible Critical Current Degradation Under Transverse Pressure**

Murtomäki, J. S., Kouhia, R., Stenvall, A., Bottura, L., Kirby, G., van Nugteren, J., DeRijk, G. & Rossi, L., Jun 2018, In : IEEE Transactions on Applied Superconductivity. 28, 4, 4802506.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **The effects of laser patterning 10CeTZP-Al<sub>2</sub>O<sub>3</sub> nanocomposite disc surfaces: Osseous differentiation and cellular arrangement in vitro**

Goyos-Ball, L., Prado, C., Díaz, R., Fernández, E., Ismailov, A., Kumpulainen, T., Levänen, E., Torrecillas, R. & Fernández, A., Jun 2018, In : Ceramics International. 44, 8, p. 9472-9478

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Towards REBCO 20T+ Dipoles for Accelerators**

van Nugteren, J., Kirby, G., Murtomaki, J., DeRijk, G., Rossi, L. & Stenvall, A., Jun 2018, In : IEEE Transactions on Applied Superconductivity. 28, 4, 4008509.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Morphology evolution of PS-b-PDMS block copolymer and its hierarchical directed self-assembly on block copolymer templates**

Rasappa, S., Schulte, L., Borah, D., Hulkkonen, H., Ndoni, S., Salminen, T., Senthamaraikanan, R., Morris, M. A. & Niemi, T., 15 May 2018, In : Microelectronic Engineering. 192, p. 1-7 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **A study of electric transport in n- and p-type modulation-doped GaInNAs/GaAs quantum well structures under a high electric field**

Sarcan, F., Mutlu, S., Cokduygulular, E., Donmez, O., Erol, A., Puustinen, J. & Guina, M., 4 May 2018, In : Semiconductor Science and Technology. 33, 6, 064003.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Quantum-well Laser Emitting at 1.2 μm-1.3 μm Window Monolithically Integrated on Ge Substrate**

Guina, M., Isoaho, R., Viheriälä, J., Aho, A., Aho, A. & Tukiainen, A., 24 Apr 2018, *43rd European Conference on Optical Communication, ECOC 2017*. IEEE, p. 1-3 3 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Membrane bound COMT isoform is an interfacial enzyme: General mechanism and new drug design paradigm**

Magarkar, A., Parkkila, P., Viitala, T., Lajunen, T., Mobarak, E., Licari, G., Cramariuc, O., Vauthey, E., Róg, T. & Bunker, A., 11 Apr 2018, In : Chemical Communications. 54, 28, p. 3440-3443 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

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Habib, M., Rashed, A. R., Ozbay, E. & Caglayan, H., 1 Apr 2018, In : Optical Materials Express. 8, 4, p. 1069-1074 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Optimization of an E3SPreSSO Energy-Extraction System for High-Field Superconducting Magnets**

Ruuskanen, J., Stenvall, A., Van Nugteren, J. & Lahtinen, V., 1 Apr 2018, In : IEEE Transactions on Applied Superconductivity. 28, 3, 4700805.

Research output: Contribution to journal > Article > Scientific > peer-review

### **The EuCARD2 Future Magnets Program for particle accelerator high field dipoles: review of results and next steps**

Rossi, L., Badel, A., Bajas, H., Bajko, M., Ballarino, A., Barth, C., Betz, U., Bottura, L., Broggi, F., Chiuchiolo, A., Dhalle, M., Durante, M., Fazilleau, P., Fleiter, J., Gao, P., Goldacker, W., Kario, A., Kirby, G., Lorin, C., Murtomaeki, J. S., van Nugteren, J., Petrone, C., DeRijk, G., Senatore, C., Statera, M., Stenvall, A., Tixador, P., Yang, Y., Usoskin, A. & Zangenberg, N., Apr 2018, In : IEEE Transactions on Applied Superconductivity. 28, 3

Research output: Contribution to journal > Article > Scientific > peer-review

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Katkovnik, V., Shevkunov, I., Petrov, N. V. & Eguiazarian, K., 1 Jan 2018, *Unconventional Optical Imaging 2018. Strasbourg, France*. SPIE, Vol. 10677. 106771B. (Proceedings of SPIE - The International Society for Optical Engineering; vol. 10677).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Sub-100 fs pulse generation from a Tm,Ho: CALYO laser mode-locked by a GaSb-based SESAM at ~2043 nm**

Zhao, Y., Wang, Y., Zhang, X., Mateos, X., Pan, Z., Loiko, P., Zhou, W., Xu, X., Xu, J., Shen, D., Suomalainen, S., Härkönen, A., Guina, M., Griebner, U. & Petrov, V., 1 Jan 2018, *CLEO: Science and Innovations, CLEO\_SI 2018*. OSA - The Optical Society

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Ultra-large mode area single frequency anisotropic MOPA with double clad Yb-doped tapered fiber**

Noronen, T., Fedotov, A., Rissanen, J., Gumenyuk, R., Butov, O., Chamorovskii, Y., Golant, K., Odnoblyudov, M. & Filippov, V., 1 Jan 2018, *Fiber Lasers XV: Technology and Systems*. SPIE, IEEE, 6 p. 105121T. (Proceedings of SPIE; vol. 10512).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **10 kA Joints for HTS Roebel Cables**

Murtomaeki, J. S., Kirby, G., van Nugteren, J., Contat, P. A., Fleiter, J., De Frutos, O. S., Pincot, F. O., DeRijk, G., Rossi, L., Ruuskanen, J., Stenvall, A. & Wolf, F., 2018, In : IEEE Transactions on Applied Superconductivity. 28, 3

Research output: Contribution to journal > Article > Scientific > peer-review

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Voronin, V., Pismenskova, M., Zelensky, A., Cen, Y., Nadykto, A. & Eguiazarian, K., 2018, *Counterterrorism, Crime Fighting, Forensics, and Surveillance Technologies II*. SPIE, 108020O. (Proceedings of SPIE; vol. 10802).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

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Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Better understanding of the role of SiO<sub>2</sub>, P<sub>2</sub>O<sub>5</sub> and Al<sub>2</sub>O<sub>3</sub> on the spectroscopic properties of Yb<sup>3+</sup> doped silica sol-gel glasses**

Glorieux, B., Salminen, T., Massera, J., Lastusaari, M. & Petit, L., 2018, In : Journal of Non-Crystalline Solids. 482, p. 46-51

Research output: Contribution to journal > Article > Scientific > peer-review

### **Design of a Nb<sub>3</sub>Sn 400 T/m quadrupole for the Future Circular Collider**

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Research output: Contribution to journal > Article > Scientific > peer-review



#### **Development of efficient electrically pumped nanolasers based on InAlGaAs tunnel junction**

Fang, C. Y., Vallini, F., Amili, A. E., Tukiainen, A., Lyytikäinen, J., Guina, M. & Fainman, Y., 2018, *CLEO: Science and Innovations, CLEO\_SI 2018*. OSA - The Optical Society

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Directional random laser by combining cavity-less lasing and spatial solitons in liquid crystals**

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Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Efficient photon upconversion at remarkably low annihilator concentrations in a liquid polymer matrix: when less is more**

Durandin, N. A., Isokuortti, J., Efimov, A., Vuorimaa-Laukkanen, E., Tkachenko, N. V. & Laaksonen, T., 2018, In : *Chemical Communications*. 54, 99, p. 14029-14032 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

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Assanto, G., Perumbilavil, S., Piccardi, A. & Kauranen, M., 2018, In : *Photonics Letters of Poland*. 10, 4, p. 103-105 3 p.

Research output: Contribution to journal > Article > Scientific > peer-review

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Research output: Contribution to journal > Article > Scientific > peer-review

#### **Frequency-doubled VECSEL employing a Volume Bragg Grating for linewidth narrowing**

Kantola, E., Penttinen, J-P., Leinonen, T., Ranta, S. & Guina, M., 2018, *CLEO: Applications and Technology, CLEO\_AT 2018*. OSA - The Optical Society

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

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Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Highly-efficient Ho:KY(WO<sub>4</sub>)<sub>2</sub> thin-disk lasers at 2.06 μm**

Mateos, X., Loiko, P., Lamrini, S., Scholle, K., Fuhrberg, P., Suomalainen, S., Härkönen, A., Guina, M., Vatnik, S., Vedin, I., Aguiló, M., Díaz, F., Wang, Y., Griebner, U. & Petrov, V., 2018, *Pacific-Rim Laser Damage 2018: Optical Materials for High-Power Lasers*. SPIE, IEEE, 107130J. (Proceedings of SPIE; vol. 10713).

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Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

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Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

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Wirdatmadja, S., Johari, P., Balasubramaniam, S., Bae, Y., Stachowiak, M. K. & Jornet, J. M., 2018, *Optogenetics and Optical Manipulation 2018*. SPIE, 104820R

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

### **Light-trapping enhanced thin-film III-V quantum dot solar cells fabricated by epitaxial lift-off**

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Research output: Contribution to journal › Article › Scientific › peer-review

### **Magnetic and mechanical design of a 16 T common coil dipole for FCC**

Toral, F., Munilla, J. & Salmi, T., 2018, In : *IEEE Transactions on Applied Superconductivity*. 28, 3, 4004305.  
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### **Narrow-linewidth 780 nm DFB lasers fabricated using nanoimprint lithography**

Virtanen, H., Uusitalo, T., Karjalainen, M., Ranta, S., Viheriala, J. & Dumitrescu, M., 2018, In : *IEEE Photonics Technology Letters*. 30, 1, p. 51-54  
Research output: Contribution to journal › Article › Scientific › peer-review

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Kaneda, Y., Hart, M. L., Warner, S. H., Penttinen, J. P. & Guina, M., 2018, *Advanced Solid State Lasers, ASSL 2018*. OSA - The Optical Society, 2 p. (Optics InfoBase Conference Papers; vol. Part F121-ASSL 2018).  
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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Ryczkowski, P., Närhi, M., Billet, C., Merolla, J. M., Genty, G. & Dudley, J. M., 2018, In : *Nature Photonics*. 12, p. 221–227  
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### **Stable blue phase polymeric Langmuir-Schaefer films based on unsymmetrical hydroxyalkadiynyl N-arylcarbamate derivatives**

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11 p.  
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### **Sub-parts-per-trillion sensitivity in trace gas detection by cantilever-enhanced photo-acoustic spectroscopy**

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#### **Surface topography studied by off-axis digital holography**

Achimova, E., Abaskin, V., Cazac, V., Meshalkin, A., Pedrini, G., Claus, D., Shevkunov, I. & Katkovnik, V., 2018, *Novel Optical Materials and Applications, NOMA 2018*. OSA - The Optical Society, Vol. Part F107-NOMA 2018.

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#### **Investigating solvent effects on aggregation behaviour, linear and nonlinear optical properties of silver nanoclusters**

Bhavitha, K. B., Nair, A. K., Perumbilavil, S., Joseph, S., Kala, M. S., Saha, A., Narayanan, R. A., Hameed, N., Thomas, S., Oluwafemi, O. S. & Kalarikkal, N., 1 Nov 2017, In : *Optical Materials*. 73, p. 695-705 11 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Paraxial light beams in structured anisotropic media**

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Research output: Contribution to journal > Article > Scientific > peer-review

#### **Fluorimetric oxygen sensor with an efficient optical read-out for in vitro cell models**

Välimäki, H., Verho, J., Kreutzer, J., Kattiparambil Rajan, D., Rynnänen, T., Pekkanen-Mattila, M., Ahola, A., Tappura, K., Kallio, P. & Lekkala, J., 1 Oct 2017, In : *Sensors and Actuators B: Chemical*. 249, p. 738-746 9 p.

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#### **Investigation of long-term chemical stability of structured ZnO films in aqueous solutions of varying conditions**

Heinonen, S., Nikkanen, J-P., Huttunen-Saarivirta, E. & Levänen, E., 30 Sep 2017, In : *Thin Solid Films*. 638, p. 410-419 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Novel Er<sup>3+</sup> doped phosphate glass-ceramics for photonics**

Petit, L., Nguyen, H., Hongisto, M., Salminen, T., Hakkarainen, T., Lopez-Iscoa, P., Pugliese, D., Boetti, N. G. & Milanese, D., 1 Sep 2017, *ICTON 2017 - 19th International Conference on Transparent Optical Networks*. IEEE COMPUTER SOCIETY PRESS

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#### **Statistical analysis of E-jet print parameter effects on Ag-nanoparticle ink droplet size**

Laurila, M. M., Khorramdel, B., Dastpak, A. & Mäntysalo, M., 2 Aug 2017, In : *Journal of Micromechanics and Microengineering*. 27, 9, 095005.

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Research output: Contribution to journal > Article > Scientific > peer-review

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Baek, J., Umeyama, T., Stranius, K., Yamada, H., Tkachenko, N. V. & Imahori, H., 29 Jun 2017, In : Journal of Physical Chemistry C. 121, 25, p. 13952-13961 10 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Finite element method incorporating coupled magneto-elastic model for magneto-mechanical energy harvester**

Ahmed, U., Harju, J., Poutala, J., Ruuskanen, P., Rasilo, P. & Kouhia, R., 19 Jun 2017. 2 p.

Research output: Other conference contribution > Paper, poster or abstract > Scientific

### **Capability assessment of inkjet printing for reliable RFID applications**

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Research output: Contribution to journal > Article > Scientific > peer-review

### **Considerations on a Cost Model for High-Field Dipole Arc Magnets for FCC**

Schoerling, D., Durante, M., Lorin, C., Martinez, T., Ruuskanen, J., Salmi, T., Sorbi, M., Tommasini, D. & Toral, F., 1 Jun 2017, In : IEEE Transactions on Applied Superconductivity. 27, 4, 4003105.

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Research output: Contribution to journal > Article > Scientific > peer-review

### **First Cold Powering Test of REBCO Roebel Wound Coil for the EuCARD2 Future Magnet Development Project**

Kirby, G. A., Van Nugteren, J., Bajas, H., Benda, V., Ballarino, A., Bajko, M., Bottura, L., Broekens, K., Canale, M., Chiuchiolo, A., Gentini, L., Peray, N., Perez, J. C., De Rijk, G., Rijllart, A., Rossi, L., Murtomaeki, J., Mazet, J., Pincot, F., O., Volpini, G., Durante, M., Fazilleau, P., Lorin, C., Stenvall, A., Goldacker, W., Kario, A. & Usoskin, A., 1 Jun 2017, In : IEEE Transactions on Applied Superconductivity. 27, 4, 4003307.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Mechanical Effects of the Nonuniform Current Distribution on HTS Coils for Accelerators Wound With REBCO Roebel Cable**

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### **Quench Protection Study of the Eurocircol 16 T $\cos\theta$ Dipole for the Future Circular Collider (FCC)**

Marinozzi, V., Bellomo, G., Caiffi, B., Fabbriatore, P., Farinon, S., Salmi, T., Sorbi, M., Stenvall, A. & Volpini, G., 1 Jun 2017, In : IEEE Transactions on Applied Superconductivity. 27, 4, 4702505.

Research output: Contribution to journal > Article > Scientific > peer-review

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Tommasini, D., Auchmann, B., Bajas, H., Bajko, M., Ballarino, A., Bellomo, G., Benedikt, M., Bermudez, S. I., Bordini, B., Bottura, L., Buzio, M., Dhalle, M., Durante, M., De Rijk, G., Fabbriatore, P., Farinon, S., Ferracin, P., Gao, P., Lackner, F., Lorin, C., Marinozzi, V., Martinez, T., Munilla, J., Ogitsu, T., Ortwein, R., Perez, J., Prioli, M., Rifflet, J. M., Rochepault,

E., Russenschuck, S., Salmi, T., Savary, F., Schoerling, D., Segreti, M., Senatore, C., Sorbi, M., Stenvall, A., Todesco, E., Toral, F., Verweij, A. P., Volpini, G., Wessel, S. & Wolf, F., 1 Jun 2017, In : IEEE Transactions on Applied Superconductivity. 27, 4, 4000405.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Catalytic Activity of AuCu Clusters on MgO(100): Effect of Alloy Composition for CO Oxidation**

Ma, L., Laasonen, K. & Akola, J., 25 May 2017, In : Journal of Physical Chemistry C. 121, 20, p. 10876-10886 11 p.

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#### **Geometric Structure and Chemical Ordering of Large AuCu Clusters: A Computational Study**

Goh, J-Q., Akola, J. & Ferrando, R., 25 May 2017, In : Journal of Physical Chemistry C. 121, 20, p. 10809-10816 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Fabrication and performance evaluation of 3D-printed graphene passive UHF RFID tags on cardboard**

He, H., Akbari, M., Chen, X., Nommeots-Nomm, A., Chen, L., Ukkonen, L. & Virkki, J., 22 May 2017, *2017 Progress in Electromagnetics Research Symposium - Spring, PIERS 2017*. IEEE, p. 3322-3325 4 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Photoinduced Electron Injection from Zinc Phthalocyanines into Zinc Oxide Nanorods: Aggregation Effects**

Virkki, K., Hakola, H., Urbani, M., Tejerina, L., Ince, M., Martínez-Díaz, M. V., Torres, T., Golovanova, V., Golovanov, V. & Tkachenko, N. V., 4 May 2017, In : Journal of Physical Chemistry C. 121, 17, p. 9594-9605 12 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Halogen bonding stabilizes a cis-azobenzene derivative in the solid state: A crystallographic study**

Saccone, M., Siiskonen, A., Fernandez-Palacio, F., Priimägi, A., Terraneo, G., Resnati, G. & Metrangolo, P., 1 Apr 2017, In : ACTA CRYSTALLOGRAPHICA SECTION B : STRUCTURAL SCIENCE, CRYSTAL ENGINEERING AND MATERIALS. 73, 2, p. 227-233 7 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Simulation studies of DFB laser longitudinal structures for narrow linewidth emission**

Virtanen, H., Uusitalo, T. & Dumitrescu, M., 23 Mar 2017, In : Optical and Quantum Electronics. 49, 4, 13 p., 160.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Effect of the addition of Al<sub>2</sub>O<sub>3</sub>, TiO<sub>2</sub> and ZnO on the thermal, structural and luminescence properties of Er<sup>3+</sup>-doped phosphate glasses**

Lopez-Iscoa, P., Petit, L., Massera, J., Janner, D., Boetti, N. G., Pugliese, D., Fiorilli, S., Novara, C., Giorgis, F. & Milanese, D., 15 Mar 2017, In : Journal of Non-Crystalline Solids. 460, p. 161-168 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **Chip-by-chip configurable interconnection using digital printing techniques**

Mashayekhi, M., Winchester, L., Laurila, M-M., Mäntysalo, M., Ogier, S., Terés, L. & Carrabina, J., 6 Mar 2017, In : Journal of Micromechanics and Microengineering. 27, 4, 045009.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **13.5 A 0.35-to-2.6GHz multilevel outphasing transmitter with a digital interpolating phase modulator enabling up to 400MHz instantaneous bandwidth**

Kosunen, M., Lemberg, J., Martelius, M., Roverato, E., Nieminen, T., Englund, M., Stadius, K., Anttila, L., Pallonen, J., Valkama, M. & Rynnänen, J., 2 Mar 2017, *2017 IEEE International Solid-State Circuits Conference, ISSCC 2017*. IEEE, p. 224-225 2 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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Selim, B., Sofotasios, P. C., Muhaidat, S. & Karagiannidis, G. K., 2 Mar 2017, *2016 IEEE 59th International Midwest Symposium on Circuits and Systems (MWSCAS)*. IEEE

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Combination of E-jet and inkjet printing for additive fabrication of multilayer high-density RDL of silicon interposer**

Laurila, M.-M., Khorramdel, B. & Mäntysalo, M., 1 Mar 2017, In : *IEEE Transactions on Electron Devices*. 64, 3, p. 1217-1224 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Very high dose electron irradiation effects on photoluminescence from GaInNAs/GaAs quantum wells grown by molecular beam epitaxy**

Pavelescu, E. M., Bălățeanu, N., Spănulescu, S. I. & Arola, E., 1 Feb 2017, In : *Optical Materials*. 64, p. 361-365 5 p.

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Research output: Contribution to journal > Article > Scientific > peer-review

#### **Continuous-wave, cascaded raman laser at 1.3, 1.5, and 1.7 $\mu\text{m}$**

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Research output: Other conference contribution > Paper, poster or abstract > Scientific

#### **Anisotropic ultra-large mode area Yb-doped tapered double clad fiber for ultrafast amplifiers**

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Research output: Contribution to journal > Article > Scientific > peer-review

### **Piezoresistive natural rubber-multiwall carbon nanotube nanocomposite for sensor applications**

Selvan, N. T., Eshwaran, S. B., Das, A., Stöckelhuber, K. W., Wießner, S., Pötschke, P., Nando, G. B., Chervanyov, A. I. & Heinrich, G., 1 Mar 2016, In : Sensors and Actuators, A: Physical. 239, p. 102-113 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Ambient-Pressure XPS Study of a Ni-Fe Electrocatalyst for the Oxygen Evolution Reaction**

Ali-Löytty, H., Louie, M. W., Singh, M. R., Li, L., Sanchez Casalongue, H. G., Ogasawara, H., Crumlin, E. J., Liu, Z., Bell, A. T., Nilsson, A. & Friebel, D., 4 Feb 2016, In : Journal of Physical Chemistry C. 120, 4, p. 2247-2253 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Effect of the glass melting condition on the processing of phosphate-based glass-ceramics with persistent luminescence properties**

Massera, J., Gaussiran, M., Gluchowski, P., Lastusaari, M., Petit, L., Hölsä, J. & Hupa, L., 1 Feb 2016, In : Optical Materials. 52, p. 56-61 6 p.

Research output: Contribution to journal > Article > Scientific > peer-review

### **Effects of insertion of strain-engineering Ga(In)NAs layers on optical properties of InAs/GaAs quantum dots for high-efficiency solar cells**

Pavelescu, E-M., Polojärvi, V., Schramm, A., Tukiainen, A., Aho, A., Zhang, W., Puustinen, J., Salmi, J. & Guina, M., 1 Feb 2016, In : Optical Materials. 52, p. 177-180 4 p.

Research output: Contribution to journal > Article > Scientific > peer-review

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#### **Compatibilization of natural rubber/nitrile rubber blends by sol-gel nano-silica generated by in situ method**

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#### **Decreasing the extremely low-frequency electric field exposure with a Faraday cage during work tasks from a man hoist at a 400 kV substation**

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Research output: Contribution to journal › Article › Scientific › peer-review

#### **Dissolution behavior of the bioactive glass S53P4 when sodium is replaced by potassium, and calcium with magnesium or strontium**

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Research output: Contribution to journal › Article › Scientific › peer-review

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Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **High performance corrosion resistant coatings by novel coaxial cold- and hot-wire laser cladding methods**

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Research output: Contribution to journal › Article › Scientific › peer-review

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Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Hot pen and laser writable photonic polymer films**

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Research output: Contribution to journal > Article > Scientific > peer-review

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Research output: Contribution to journal > Editorial > Scientific

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### **Observation of unusual metal-semiconductor interaction and metal-induced gap states at an oxide-semiconductor interface: The case of epitaxial BaO/Ge(100) junction**

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### **Construction of an Interconnected Nanostructured Carbon Black Network: Development of Highly Stretchable and Robust Elastomeric Conductors**

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**Analysis of uncertainties in protection heater delay time measurements and simulations in Nb<sub>3</sub>Sn high-field accelerator magnets**

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**Measuring optical anisotropy in poly(3,4-ethylene dioxythiophene): poly(styrene sulfonate) films with added graphene**

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**Passive resonance sensor based method for monitoring particle suspensions**

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**Accelerator-quality HTS dipole magnet demonstrator designs for the EuCARD-2 5-T 40-mm clear aperture magnet**

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Research output: Contribution to journal › Article › Scientific › peer-review

### **Aryl end-capped quaterthiophenes applied as anode interfacial layers in inverted organic solar cells**

Heiskanen, J. P., Manninen, V. M., Pankov, D., Omar, W. A. E., Kastinen, T., Hukka, T. I., Lemmetyinen, H. J. & Hormi, O. E. O., 1 Jan 2015, In : *Thin Solid Films*. 574, p. 196-206 11 p.

Research output: Contribution to journal › Article › Scientific › peer-review

#### **1180nm VECSEL with 50 W output power**

Kantola, E., Leinonen, T., Ranta, S., Tavast, M., Penttinen, J-P. & Guina, M., 2015, *Proceedings of SPIE - The International Society for Optical Engineering*. SPIE, Vol. 9349. 93490U

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **A method for predicting DCT-based denoising efficiency for grayscale images corrupted by AWGN and additive spatially correlated noise**

Rubel, A. S., Lukin, V. V. & Egiazarian, K., 2015, *Proceedings of SPIE - The International Society for Optical Engineering*. SPIE, Vol. 9399. 93990P

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **A Novel Enhanced-Performance Flexible RFID-Enabled Embroidered Wireless Integrated Module for Sensing Applications**

Hasani, M., Vena, A., Sydänheimo, L., Tentzeris, M. M. & Ukkonen, L., 2015, In : *IEEE Transactions on Components, Packaging and Manufacturing Technology*. 5, 9, p. 1244-1252 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **A perceptual quality metric for high-definition stereoscopic 3D video**

Battisti, F., Carli, M., Stramacci, A., Boev, A. & Gotchev, A., 2015, *Image Processing: Algorithms and Systems XIII*. SPIE, 939916. (SPIE Conference Proceedings; vol. 9399).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

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Lukin, V. V., Ponomarenko, N. N., Ieremeiev, O., Egiazarian, K. & Astola, J., 2015, *Proceedings of SPIE - The International Society for Optical Engineering*. SPIE, Vol. 9394. 93940K

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

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Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **Frequency modulation of semiconductor disk laser pulses**

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Research output: Contribution to journal > Article > Scientific > peer-review

#### **Generation of a broad IR spectrum and N-soliton compression in a longitudinally inhomogeneous dispersion-shifted fibre**

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Research output: Contribution to journal > Article > Scientific > peer-review

#### **Generation of bound states of pulses in a soliton laser with complex relaxation of a saturable absorber**

Zolotovskii, I. O., Korobko, D. A., Gumenyuk, R. V. & Okhotnikov, O. G., 2015, In : *Quantum Electronics*. 45, 1, p. 26-34 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

#### **Green (In,Ga,Al)P-GaP light-emitting diodes grown on high-index GaAs surfaces**

Ledentsov, N. N., Shchukin, V. A., Lyytikäinen, J., Okhotnikov, O., Cherkashin, N. A., Shernyakov, Y. M., Payusov, A. S., Gordeev, N. Y., Maximov, M. V., Schlichting, S., Nippert, F. & Hoffmann, A., 2015, *Proceedings of SPIE: Light-Emitting Diodes: Materials, Devices, and Applications for Solid State Lighting XIX*. SPIE, Vol. 9383. 93830E

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

#### **>8W GaInNAs VECSEL emitting at 615 nm**

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Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**Interstitial photodynamic therapy and glioblastoma: Light fractionation study on a preclinical model: Preliminary results**  
Leroy, H. A., Vermandel, M., Tétard, M. C., Lejeune, J. P., Mordon, S. & Reyns, N., 2015, *Optical Techniques in Neurosurgery, Neurophotonics, and Optogenetics II*. SPIE, Vol. 9305. 93050D

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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Korpijärvi, V-M., Kantola, E. L., Leinonen, T. & Guina, M., 2015, *SPIE conference proceedings*. SPIE, Vol. 9349. 93490D

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

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Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

#### **Power and wavelength scaling using semiconductor disk laser - bismuth fiber MOPA systems**

Heikkinen, J., Gumenyuk, R., Rantamäki, A., Lyytikäinen, J., Leinonen, T., Zolotovskii, I., Melkumov, M., Dianov, E. M. & Okhotnikov, O. G., 2015, *Vertical External Cavity Surface Emitting Lasers (VECSELs) V*. Guina, M. (ed.). BELLINGHAM: SPIE, 7 p. 93490E. (Proceedings of SPIE; vol. 9349).

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Moradi, E., Koski, K., Björninen, T., Muller, R., Ledochowitsch, P., Sydänheimo, L., Alon, E., Maharbiz, M. M., Rabaey, J. M., Ukkonen, L. & Rahmat-Samii, Y., 16 Oct 2014, *2014 United States National Committee of URSI National Radio Science Meeting, USNC-URSI NRSM 2014*. Institute of Electrical and Electronics Engineers Inc., 6928137

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### **Unveiling and controlling the electronic structure of oxidized semiconductor surfaces: Crystalline oxidized InSb(100)(1 × 2)-O: Crystalline oxidized InSb(100)(1 × 2)-O**

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#### **Influence of the P2O5/Al2O3 co-doping on the local environment of erbium ions and on the 1.5 $\mu\text{m}$ quantum efficiency of Er<sup>3+</sup>-borosilicate glasses**

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#### **Fabrication of ssDNA/oligo(ethylene glycol) monolayers by promoted exchange reaction with thiol and disulfide substituents**

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#### **An Optical Sensor for Volatile Amines Based on an Inkjet-Printed, Hydrogen-Bonded, Cholesteric Liquid Crystalline Film**

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#### **Symmetry-broken electronic structure and uniaxial Fermi surface nesting of untwinned CaFe<sub>2</sub>As<sub>2</sub>**

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#### **Fabrication of ssDNA/Oligo(ethylene glycol) monolayers and patterns by exchange reaction promoted by ultraviolet light irradiation**

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#### **Calculation of the scalar diffraction field from curved surfaces by decomposing the three-dimensional field into a sum of Gaussian beams**

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#### **Cold test results of the LARP HQ Nb<sub>3</sub>Sn quadrupole magnet at 1.9 K**

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#### **Properties of nematicons in low-birefringence nematic liquid crystals**

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**Block copolymer lithography: Feature size control and extension by an over-etch technique**

Rasappa, S., Borah, D., Senthamaraiyannan, R., Faulkner, C. C., Shaw, M. T., Gleeson, P., Holmes, J. D. & Morris, M. A., 1 Nov 2012, In : *Thin Solid Films*. 522, p. 318-323 6 p.

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Assanto, G., Smyth, N. F. & Xia, W., Sep 2012, In : *Journal of Nonlinear Optical Physics and Materials*. 21, 3, 1250033.

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**Halogen bonding versus hydrogen bonding in driving self-assembly and performance of light-responsive supramolecular polymers**

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